

*spicata* should be included surely does not indicate that he regarded it as more representative of his *Danthonia* than *decumbens*, since his generic description provides for the latter ("awn sometimes long, sometimes rudimentary").

The adoption of *Avena spicata* L. as the type, therefore, is seen to be purely arbitrary, since such action is based on the present interpretation of the genus.—AVEN NELSON and J. FRANCIS MACBRIDE.

## MATURATION IN VICIA

(PRELIMINARY NOTE)

The following preliminary note summarizes the results so far obtained in a study which has been temporarily interrupted. Although many details remain to be worked out, the following points seem clear.

In the somatic cells of *Vicia Faba* there are twelve chromosomes; two of them are about twice as long as the other ten. How this size difference arose is not known, but there is some reason to believe that each long chromosome may have been formed originally by the coherence of two ordinary ones.

In the early prophase of the heterotypic mitosis in the pollen mother cells, the chromosomes take the form of long slender threads (leptonema), which become paired side by side (zygonema). These double threads shorten and thicken (pachynema), the association of the two members of each pair becoming very intimate. The nature of this union has yet to be determined. Synizesis occurs during these prophase stages as a natural phenomenon.

At diakinesis there are six gemini; one of them is about twice as large as the other five, showing that the two large chromosomes seen in the somatic cells have paired with each other. At the first maturation division the members of each pair pass to opposite poles, bringing about the reduction. In the second, or homeotypic, mitosis all the chromosomes divide longitudinally, so that each microspore receives six chromosomes, five short and one long.

The megaspore mother cell has not been examined, but in the light of the above data on somatic and pollen cells it seems probable that similar phenomena occur in the maturation of the megaspore.

The results here recorded are of special interest in that they furnish further evidence in favor of the theory that the two chromosomes which pair and separate at the first maturation division come one from each parent, and are in some sense homologous.—LESTER W. SHARP, *University of Chicago*.